IN THE CLAIMS

1. (Currently Amended): A microstrip antenna comprising:

a first conductive ground plane;

a dielectric substrate disposed on the first ground plane;

a patch disposed on the dielectric substrate;

feed means for electrically feeding the patch; ~~and~~

a dielectric lens for encapsulating at least a portion of the patch to increase radiation gain at an angle less than 45 degrees to said patch without significantly decreasing gain at zenith; and

a second ground plane formed between the dielectric substrate and the first ground plane for raising the patch and further increasing the radiation gain at angles less than 45 degrees.

2. (Cancelled).

3. (Previously Presented): The microstrip antenna of claim 1, wherein the first and second ground planes are disposed such that a space is created between the first and second ground planes for providing additional elements therein.

4. (Previously Presented): The microstrip antenna of claim 1, wherein the dielectric lens covers completely the top of the patch and the dielectric substrate.

5. (Previously Presented): The microstrip antenna of claim 1, further comprising:

an air gap disposed between the patch and the dielectric lens.

6. (Currently Amended): ~~The microstrip antenna of claim 1,~~ A microstrip antenna comprising:

a first conductive ground plane;

a dielectric substrate disposed on the first ground plane;

a patch disposed on the dielectric substrate;

feed means for electrically feeding the patch; ~~and~~

a dielectric lens for encapsulating at least a portion of the patch to increase radiation gain at an angle less than 45 degrees to said patch without significantly decreasing gain at zenith; and

a second ground plane formed between the dielectric substrate, wherein the second ground plane includes at least one slant portion, and a flat portion for disposing thereon the patch, and wherein the first ground plane is entirely flat;

the first ground plane for raising the patch and further increasing the radiation gain at angles less than 45 degrees.

7. (Previously Presented): The microstrip antenna of claim 1, wherein the dielectric lens has a dome configuration.

8. (Original): The microstrip antenna of claim 1, wherein the first ground plane is flat and the dielectric substrate is disposed directly on the first ground plane.

9. (Original): The microstrip antenna of claim 1, further comprising:

an additional antenna element disposed through the patch, the dielectric substrate, the ground plane, and the dielectric lens.

10. (Original): The microstrip antenna of claim 9, wherein the additional antenna element is a monopole.

11. (Original): The microstrip antenna of claim 10, further comprising:

a dielectric cap disposed around the monopole.

12. (Previously Presented): The microstrip antenna of claim 1, further comprising:

a monopole disposed through the patch, the dielectric substrate, the second ground plane and the dielectric lens; and

a dielectric cap surrounding the monopole, whereby a dual-function antenna is provided.

13. (Original): The microstrip antenna of claim 12, further comprising:

an air gap disposed between the patch and the dielectric lens.

14. (Original): The microstrip antenna of claim 1, wherein the feed means includes a feed pin disposed through the patch, the dielectric substrate and the ground plane.

15. (Currently Amended): A method of providing a microstrip antenna, comprising the steps of:

providing a first conductive ground plane;

providing a dielectric substrate on the ground plane;

providing a patch on the dielectric substrate;

providing feed means for feeding the patch;

providing a dielectric lens encapsulating at least a portion of the patch to increase radiation gain at angles less than 45 degrees <u>while not significantly reducing gain at zenith</u>; and

providing a second conductive ground plane between the dielectric substrate and the first ground plane for raising the patch and further increasing the radiation gain at low angles.

16. (Cancelled).

17. (Currently Amended): ~~The method of claim 15~~ A method of providing a microstrip antenna, comprising the steps of:

providing a first conductive ground plane;

providing a dielectric substrate on the ground plane;

providing a patch on the dielectric substrate;

providing feed means for feeding the patch;

providing a dielectric lens encapsulating at least a portion of the patch to increase radiation gain at angles less than 45 degrees while not significantly reducing gain at zenith; and

providing a second conductive ground plane between the dielectric substrate and the first ground plane for raising the patch and further increasing the radiation gain at low angles, wherein the second ground plane includes at least one slant portion, and a flat portion for disposing thereon the patch, and wherein the first ground plane is entirely flat.

18. (Original): The method of claim 15, wherein the first ground plane is entirely flat and the dielectric substrate is disposed directly on the first ground plane.

19. (Previously Presented): The method of claim 15, further comprising the step of:

providing an additional antenna element disposed through the patch, the dielectric substrate, the second ground plane, and the dielectric lens.

20. (Original): The method of claim 19, wherein the additional antenna element is a monopole.

21. (Original): The method of claim 19, further comprising the step of:

providing a dielectric cap disposed around the monopole.

22. (Original): The method of claim 19, further comprising the step of: providing an air gap between the patch and the dielectric lens.

23. (Original): The method of claim 15, wherein, in the step of providing the feed means, the feed means includes a feed pin disposed through the patch, the dielectric substrate and the ground plane.

24. (Previously Presented): The microstrip antenna of claim 1 wherein said dielectric lens is disposed directly on said patch.

25. (Previously Presented): The microstrip antenna of claim 15 wherein said dielectric lens is disposed directly on said patch.

26. (Previously Presented): The microstrip antenna of claim 1 wherein said radiation gain is increased by about at least 0.5 dB at about 35 degrees relative to a microstrip antenna without said dielectric lens that is otherwise the same as said microstrip antenna.

27. (Previously Presented): The microstrip antenna of claim 25 wherein said radiation gain is increased by at least about 2.5 dB at 24 degrees relative to a microstrip antenna without said dielectric lens that is otherwise the same as said microstrip antenna.

28. (Previously Presented): The microstrip antenna of claim 27 wherein said radiation gain is increased by at least about 3 dB at 24 degrees relative to a microstrip antenna without said dielectric lens that is otherwise the same as said microstrip antenna.

29. (Previously Presented): The microstrip antenna of claim 15 wherein said dielectric lens is disposed directly on said patch.

30. (Previously Presented): The method of claim 15 wherein said dielectric lens provides increased radiation gain at an angle as low as 24 degrees.

31. (Previously Presented): The microstrip antenna of claim 15 wherein said radiation gain is increased by about at least 0.5 dB at about 35 degrees relative to a microstrip antenna without said dielectric lens that is otherwise the same as said microstrip antenna.

32. (Previously Presented): The method of claim 30 wherein said radiation gain is increased by at least about 2.5 dB at about 24 degrees relative to a microstrip antenna without said dielectric lens that is otherwise the same as said microstrip antenna.

33. (Previously Presented): The method of claim 32 wherein said radiation gain is increased by at least about 3 dB at about 24 degrees relative to a microstrip antenna without said dielectric lens that is otherwise the same as said microstrip antenna.

34. (Previously Presented): The microstrip antenna of claim 4 wherein the dielectric lens is positioned with respect to said patch such that all forward radiation emanating from said patch or received at said patch passes through said lens.

35. (Previously Presented): The microstrip antenna of claim 15 wherein the dielectric lens covers completely the top of the patch and the dielectric substrate.

36. (Previously Presented): The method of claim 31 wherein the dielectric

lens is positioned with respect to said patch such that all forward radiation emanating from said patch or received at said patch passes through said lens.